Small Business Economic Impact Statement
Onsite Sewage Systems,
Chapter 246-272A WAC

1. Briefly describe the proposed rule.

There are currently more than 800,000 onsite sewage systems (OSS), or septic systems, in Washington State. Between 15,000 and 20,000 new or repair systems are installed annually. Approximately 30 percent of new homes across the state are built using an OSS. These numbers demonstrate that OSS are increasingly becoming a long-term and important option in wastewater infrastructure planning. However, if they are not properly designed, installed, operated, and maintained, OSS can pose risks to public health and the environment.

Pathogens in wastewater can cause serious illness. These pathogens include hepatitis, E coli, typhoid, noroviruses, and cryptosporidium. The United States Environmental Protection Agency (USEPA) estimates 168,000 viral illnesses and 34,000 bacterial illnesses occur each year as the result of consumption of improperly treated drinking water. The shellfish industry in Washington State with reported 2002 values of $76 million commercial shellfish and $35.7 million worth of recreational shellfish, as well as tourism and recreation industries, depend on clean water. The list of shellfish growing areas monitored by DOH that are threatened by pollution has increased from 9 sites in 1997 to 18 sites in 2004.

A 1999 study cited in the 2002 EPA Onsite Sewage Manual (EPA, 2002) reported OSS failure rates from 28 reporting states. The study indicated a 33 percent failure rate in Washington State, compared to a range of one to 60 percent in the other 27 states. The EPA 2002 Manual cites reports that identify OSS among the most common sources of water contamination.

The State Board of Health (SBOH) promulgates minimum standards for the design, installation, operation, and maintenance of OSS in order to prevent these risks. The rules containing these standards, chapter 246-272 WAC, were last revised in 1994 (became effective in 1995). Since that time, technology has changed, more research has been conducted, and understanding of the treatment capabilities of soil has increased. These advances help to increase the life expectancy of OSS and decrease the number of failures and hence, the public health risks associated with failures. The rules need to be revised and updated to reflect these advances.

The proposed rules will create a new chapter exclusively for OSS systems designed for fewer than 3,500 gallons per day. They are based on recommendations by the Rule Development Committee (RDC), a stakeholder group including industry, consumers, regulators, developers, and environmental representatives. Their initial recommendations were modified based on input received through public workshops and public comment. The Department of Health's (DOH) final recommendations to the SBOH include changes to the rules in the following categories:

- **Product registration.** DOH maintains a list of products that meet public health standards. Products must be registered with the state before they can be used by designers or allowed by local health jurisdictions. These new sections will place in rule the specific criteria for this registration that, until now, has been contained in guidance.
- **Technical design, installation and operation requirements for systems designed to handle under 3500 gallons per day.** Local health jurisdictions implement these portions of the rules as minimum requirements but may adopt more stringent codes to meet local

needs. These changes include new requirements for treatment levels, distribution of effluent, use of disinfection, and designing systems to be more assessable.

- **Local planning/Operation and Maintenance (O&M).** Local health jurisdictions must write a plan for how and where OSS will be used in their jurisdictions. In addition, owners are responsible for assuring a complete inspection of their system every three years, as opposed to only checking the solids in their septic tank. Certain systems will be required to have an annual inspection.

The first two items contain changes that will directly affect businesses. For the third item, the direct cost will be to the local health jurisdictions and system owners. Only the first two items are considered in this small business economic impact statement.

2. Is a Small Business Economic Impact Statement (SBEIS) required for this rule?

Yes. The Regulatory Fairness Act requires a small business economic impact statement be prepared if a proposed rule will impose more than minor impact on businesses in an industry. This proposal contains a number of changes that will impact businesses in this state. Some changes will be minor, but others are beyond the minor impact threshold.

3. Which industries are affected by this rule?

The following industries (Table 1) may be directly affected by different provisions in this proposal. These industries are the first round recipients of the costs. However, they likely will pass increased costs on to property owners. Since these rules apply to all new OSS systems, any business constructing a building to house their operation will be impacted in much the same way as home/property owners. Some examples of the impact of the new OSS proposed rule changes are provided in the Significant Analysis.

Table 1

SIC	Affected Industry	Average Employment, small Businesses	Average Employment, largest 10%
1521	Single family housing construction	4.1	14.3
1522	Residential Construction NEC	8.7	28.9
1542	Non-residential Construction NEC	7	60
6552	Developers	5.5	25.6
1711	Plumbing, heating, air conditioning (Installers)	7.6	38.2
8711	Engineering services (Engineers, Designers)	6.8	65
3089	Septic Tank Manufacturers, (Plastics not elsewhere classified)	9.5	158
3272	Septic Tank Manufacturers, (Cement not elsewhere classified)	9	136
3999	Proprietary Product Manufacturers	5.7	53.5

This proposal will positively affect some industries including the shellfish, tourism, and recreation industries by either directly increasing their sales, or indirectly improving the quality of water on which their industry relies.

4. What are the costs of complying with this rule for small businesses (those with 50 or fewer employees) and for the largest 10% of businesses affected?

The sections listed below have potential costs of compliance to businesses. The costs listed are per system costs and therefore are the same for large or small businesses. Detailed cost estimates and discussion can be found in the Significant Analysis document.

Table 2

	Rule Component	Estimated Increase in Costs
	Manufacturers	
1	***Proprietary Treatment product testing-(-0110)***	$70,000-$80,000 – Category 1 NSF $60,000 – $80,000 – Category 2 ETV $18,700 - Category 3 NSF Standard 41(composting toilet) $10,000 – 12,000 NSF P157 incinerating toilets $60,000– Nitrogen reduction testing (not required) (All one-time costs unless product changes)
2	Proprietary Treatment Product Registration process (-0120)	$300 – time to prepare application. Also minor annual renewal application time
3	-0125 Transition from the list of Approved Systems – Treatment Products	$300 – time to prepare application for registration
4	**-0130 – *Bacteriological Reduction testing***	$22,000 – Testing by ANSI certified lab
5	-0135 Transition from the List of Approved Systems – Bacteriological Reduction	If reduced protocol is necessary cost estimate – $7,632
6	***Proprietary Distribution Products certification-0140***	$500 to $1,000 (one time cost for a professional engineer to verify that the product meets the standards established in the rule)
7	Proprietary Distribution Registration (-0145)	$300 – time to prepare application
8	Transition from the List of Approved Systems – Distribution Products – (0150)	$300 – time to prepare application
9	Product Development Permits (-0170)	Estimated that permit costs charged by local health jurisdictions will range from $750 -$2000. However, this is an optional cost.
10	**(-**0175) Transition from Experimental Systems Program to Application for Product Registration	$300- time to prepare application
	Developers, Builders, Property Owners	
11	Permits not required in certain situations- (-0200(2))	Cost Savings - $50 to $500 in potential permit and design costs
12	***Changes to horizontal setback table (-0210)***	Variable cost
13	**-0220 *Soil and Site Evaluation***	In some situations this will increase cost because of increased

	Changes to Soil Classification Table V	Treatment Level requirements. Other changes will increase the size, and thus the cost, of the drainfields. Range of impacts $0 to $5,000
14	***(1)(a) Homeowners along marine shorelines are no longer allowed to design their own systems.-0230***	Range of impact $250 - $2,000 – potential increased revenue for designers
15	***(2)(e) The designer must address sewage quality for all designs.***	Increased designer time to develop a design. $0 - $200.
16	***(2)(e)(i)(D) If the local management plan designates an area with nitrogen as a contaminant of concern, it must be addressed in the design.***	System to reduce nitrogen could result in an increase of $0-$3,000 over the system that would have otherwise been required.
17	***(2)(g)(i) Table VI – Treatment Levels and Method of Distribution by Vertical Separation***	Range of impact: Cost Savings of up to $2,000 Cost Increase of up to $2,000.
18	***(2)(g)(ii) Disinfection via chlorine or ultraviolet (UV) not permitted to meet treatment level C; or treatment level A & B in type 1 soil.***	$0 to $3,000
19	***(3) The coarsest textured soil within the vertical separation determines the Treatment Level.***	$0 to $1,000 However, this should already be standard of practice, so very likely there is no increase associated with this change.
20	***Increase the size of residential other than single family and non-residential tanks (-0232)***	Range of cost increase for concrete tanks $100-$2,500 Range of cost increase for fiberglass tanks $750- $7,000
21	(***1)(b)(ii)Hydraulic loading rate is based on the finest texture soil in the selected vertical separation (-0234)***	$0 - $1,000 However, this should already be standard practice, so very likely there is no increase associated with this change.
22	***(1)(d)(iii)Timed dosing required for systems handling more than 1,000 gallons per day (-0234)***	$ 1,000 plus
23	***Non gravity systems must be brought to grade (-0238)***	$100-$500 per system
24	***Systems with pumps need warning and diagnostic devices. (-0238(1)(c))***	$500-$750 per system (However, this should already be standard practice, so very likely there is no increase associated with this change.)
25	***Installers must obtain approval from local health officer and designer before any changes to the approved design (- 0250)***	$100 in time to get approval. However, this change provides new flexibility from the current rule which requires the installer to follow the approved design without change. This is also consistent with DOL requirements for designer activities.
26	***Record Drawing-0265***	New detail and specificity for record drawings will increase the time to prepare. Likely to increase time spent by the person preparing by 1-2 hours estimated to be $100-$250.
27	***Repair of Failure -0280***	$0 - $5,000
28	***Increased Minimum Lot size for***	The changes to the Method I requirement could require a small

	public water supply to .5 acres(-0320)	increase in the number new developments or lots required to undergo a Method II analysis. Estimated cost for a Method II analysis is $1,000 to $10,000.

The rule imposes costs on different entities although it is likely that most costs will ultimately be borne by property owners. The following discussion provides an analysis of the costs of compliance for the various impacted industries.

Proprietary Product Manufacturers – All proprietary products must be on the "registered list" maintained by the Department of Health. For manufacturers of new treatment products and manufacturers wishing to be listed for Treatment Levels A, B, C or D (see Significant Analysis), this will require testing by an ANSI certified lab. The costs for the various types of systems are listed in Table 2 and also discussed in the Significant Legislative Analysis. For proprietary distribution products, manufacturers will need to provide verification from a professional engineer that the product meets the standards established in the rule. See costs in Table 2. In addition, all manufacturers will need to complete the registration application. The Department estimates it will take several hours to gather the materials necessary to complete the application. Estimated administrative labor cost is $300 for the initial application and $50 per year to complete the renewal process.

All manufacturers currently approved by DOH will need to become registered. While most manufacturers will not need to go through testing again, they will need to fill out the registration application. Again, this will entail completing the application provided by the Department. The estimates are the same as those listed above for new products.

Manufacturers have to bear the initial costs of product development and testing. The testing requirements ensure that sewage does not contaminate drinking water. These costs would not work as barriers to market entry for these manufacturers. With a uniform standard for these products, the market will be fairly open to competition. Considering the 9,642 building permits issued in the first quarter of 2004 in Washington State and 9.5 percent change compared to the first quarter of 2003 (Washington Center for Real Estate Research, http://www.cbe.wsu.edu/~wcrer/), there seems to be sufficient market demand for efficient and effective products. Because national standards are being used, the Department anticipates manufacturers will have a national market available to help them recoup the costs of product development and testing.

Moreover, by setting standards for testing, the proposed rule will help assure safety and effectiveness on the production-supply side of the market. This means that product capabilities will be established before a system is marketed and installed. This provides a less expensive and more efficient method for assuring system performance capabilities rather than continual monitoring of each system. (Regular monitoring required in -0270, helps to provide information on field performance.)

Designers and Engineers – Designers are responsible for working with a client to develop an onsite sewage system that meets the needs of the client and the requirements of the rules for soils, location, and treatment. The costs of compliance for designers include:

- Becoming familiar with the new design requirements in the rules which may require training. The Department estimates it could take 16 hours of training or study of the rules to become familiar with the new requirements.
- The requirement to consider sewage quality in addition to quantity. It is expected that this requirement could add up to 1 hour to the time to design a system.

- New specificity for record drawings. The new requirements may take an additional 1-2 hours of a designer's time.

DOH estimates the cost of a designer's time to be $50 to $125 per hour. This means the initial costs of learning the new requirements could cost in the range of $800 to $2,000 (16hrs x $50.00 = $800.00; 16 hrs. x $125.00 = $2,000.00).

The ongoing costs per design listed above could add up to a total of 3 hours for each system. DOH anticipates the time will be reduced as designers become more practiced in applying the new requirements. Initially these labor costs could be in the range of $200 to $500. DOH anticipates this cost will be passed on to the system owner. However, it could result in lost revenue to a designer who is unable to pass the cost to the OSS purchaser.

Installers - Installers are responsible for using the design developed by the designer to construct an onsite sewage system on a particular site. The costs of compliance for installers include research and training to become familiar with the requirements of the new rules. The Department estimates this will require 8 hours of training or individual study. The Department further estimates the cost of an installer's time to be $50 to $125 per hour. There should not be any increased administrative, equipment, or supply costs.

Developers – All of the technical changes are likely to impact developers as they create homes, subdivisions, business parks, etc. The technical changes include changes to the treatment levels, soil types and hydraulic loading rates, vertical separations, designing systems for accessibility, and limits on the use of disinfection. The costs and benefits of the specific technical design changes are discussed in the Significant Analysis and summarized in Table 3. Some of the proposed changes will impose new costs in certain situations; other changes will mean a reduction in costs. The changes apply on a site by site basis, depending on the limitations and sensitivities of the site. Currently, OSS range in cost from $5000 for a fairly basic system up to $20,000 for a complex system. Overall the cost for the majority of systems will continue to be in this range. More specifically the impacts to developers include:

- New design requirements for OSS in the worst case scenario can increase the total costs in some situations by as much as $5,000 or more (See Significant Legislative Analysis). Ultimately, this can increase the cost of houses or other buildings and may result in loss of revenue for developers if they are unable to pass the cost on to the purchaser.
- The changes to the Method I minimum land requirements could require a small increase in the number of lots required to under go a Method II analysis. However this change is expected to affect only a very small number of lots (See Significant Analysis). When it does apply, there are a number of possible options available to developers with a variety of potential costs. If a developer wishes to build more houses than allowed under the Method I determination, a Method II analysis determines if smaller lots are possible while still addressing public health concerns. The developer will likely require professional assistance in preparing a Method II report. Discussions with industry and environmental health officers reveal that a Method II analysis is likely to cost between $1,000 and $5,000 but a complex Method II analysis could cost as much as $10,000. A Method II analysis could have the following outcomes:
    - Determination that reduced lot sizes (to a minimum of 12,500 sq. feet) are appropriate.
    - Determination that nitrogen should be addressed if smaller lots are desired. In this case, one option would be systems providing nitrogen treatment. Systems

that provide nitrogen treatment may increase the cost of an OSS by $2,000 - $3,000.

There are no other administrative, equipment or labor costs incurred by developers as a result of this rule revision.

Developers, builders, and installers are among those who bear the first round of costs associated with the proposed rule. Although developers would most likely pass the extra costs to homeowners, their financial return may be reduced if the number of lots in a new subdivision is reduced. Considering the fact that the price of a median home went up 8.3% during 2003 (Washington Center for Real Estate Research, http://www.cbe.wsu.edu/~wcrer/), there may be a possibility for the developers/builders to maintain their profit margins and spread the extra costs among property buyers.

Other affects of the proposed changes

The industries listed in Table 1 are those industries most directly affected by the proposed rules. These industries all pass the increased costs on to system owner. Therefore, any business that builds a structure with an OSS will potentially face increased costs as a result of the proposed rule changes. Commercial property owners (grocers, retailers, processors, etc.), like homeowners, are the majority of impacted parties. For them, the value of improved public health is the factor that compensates for their cost shares of the proposed rules. In addition, a properly operated and maintained OSS system has a greater probability for long lasting life. This not only minimizes personal and community health risks, but also promises a reliable system with less likelihood of having to be replaced. An efficient OSS system also increases the resale value of their houses and businesses. Compared to the $210,000 median price of houses in Washington State (Washington Center for Real Estate Research, http://www.cbe.wsu.edu/~wcrer/), the share of the costs of the most expensive OSS system ($6,000 to $20,000) is not more than 10 percent of the total development cost.

Several proposed changes will increase demand for some services.

- Section 246-272A-0270 WAC contains the requirements for system monitoring inspections. This will likely increase the demand for monitoring and maintenance service providers. Although the rule does not require the homeowner to use an outside service provider to monitor their system, many owners may choose to hire a professional to provide this service.
- Section 246-272A-0230 now prohibits the homeowner from designing a system along a marine shoreline. Likewise, 246-272A-0250 prohibits the homeowner from self-installing a system along a marine shoreline. This will increase demand for designers and installers in these situations.

5. Does the rule impose a disproportionate impact on small businesses?

Yes. The italicized rule components in the Table 2 are likely to impose a disproportionate cost on small businesses. Although costs for some of these components will probably be higher for large businesses, the fixed-cost nature of many of these items suggests that costs will be disproportionate for small businesses. Ultimately, all these costs will be borne by system owners. However, large businesses may be able to absorb some costs or spread costs out over a larger volume of sales while smaller businesses will have to pass the costs on more fully to consumers.

Again, although it is unknown how many or which businesses will be affected, ultimately, small business owners who are served by an OSS will be disproportionately affected compared to large businesses served by an OSS.

6. If the rule imposes a disproportionate impact on small businesses, what efforts were taken to reduce that impact (or why is it not "legal and feasible" to do so)?
In developing its recommendations, the RDC considered the costs to both businesses and homeowners in its discussions. Many proposals were rejected because they were considered to be overly burdensome.

For the most part, it is not feasible to attempt to reduce the impact on small businesses because the rules are written so that the requirements are commensurate with the public health risk posed by a specific site. Many proposals apply only in limited situations or for the most sensitive sites. Trying to further reduce the impact to small businesses would begin to jeopardize public health protections and would be counter to the Legislature's directives to the State Board of Health contained in RCW 43.20.050.

That being said, efforts have been taken to reduce the impact as much as possible:

a) Reducing, modifying, or eliminating substantive regulatory requirements
A local health officer may waive a specific requirement if it is possible to ensure adequate public health protection. Usually this is done through some form of mitigation. This allows local health to have the flexibility to adjust requirements, allow less costly alternatives, and create incentives for mitigation.

b) Simplifying, reducing, or eliminating record keeping and reporting requirements
The original RDC proposal required a notice to title be filed at the time of the final installation inspection. We received many comments that this was an overly burdensome requirement on designers; thus, it was removed from the final draft proposal.

Another reporting requirement discussed by the RDC was an operation and maintenance report being given to the local health officer by the homeowner or service provider. Some felt this was an important requirement to assure inspections were done. However, the additional burden placed on service providers, homeowners and local health jurisdictions was too great and so this requirement was not included in the final proposal.

c) Reducing the frequency of inspections
N/A

d) Delaying compliance timetables
For the product registration portions of the rule, manufacturers that are already on the List of Approved products and systems will have eighteen months to become registered and in most cases will be able to use the testing information they already have to comply with the registration requirements.

For the portions of the rule that will be implemented by local health jurisdictions, including the design and installation requirements, there will be an eighteen month delay in the effective date. This will provide time for local health jurisdictions and the industry to become familiar with the new requirements before they are effective.

e) Reducing or modifying fine schedules for noncompliance
N/A

f) Other mitigation techniques
The Department intends to provide free training to designers, installers, maintenance service providers and local health jurisdictions to mitigate the costs associated with becoming familiar with the new requirements.

7. How are small businesses involved in the development of this rule?
The Rule Development Committee (RDC) was a broad-based stakeholder group that made recommendations for rule changes to the department and the SBOH. Designers, installers, proprietary product manufacturers, the Building Industry Association of Washington and shellfish growers were all represented on the RDC. In addition, DOH held seven workshops around the state to gather comments from industry. Many comments and suggestions from those workshops are reflected in the final draft.